

**Before the
Federal Communications Commission**

Washington, D.C. 20554

In the Matter of

Revision of the Commission's Rules to)	CC Docket No. 94-102
Ensure Compatibility With Enhanced 911)	RM-8143
Emergency Calling Systems)	
)	
WTB Seeks Comment on Wireless E911)	
Phase II Waiver Request Filed by Verizon)	DA 01-1836
Wireless)	
)	

COMMENTS OF MOTOROLA, INC.

Motorola, Inc. ("Motorola") herein submits comments in support of the limited waiver request submitted by Verizon Wireless. As is discussed in more detail in these comments, Motorola is committed to meeting the handset and switch implementation schedule presented by Verizon Wireless, with some modification and clarification, and strongly encourages the Commission to approve the requested waiver of its rules.

I. INTRODUCTION

On July 25, 2001, Verizon Wireless submitted an updated Phase II E911 Report and Request for Limited Waiver.¹ This request was subsequently placed on public notice by the Commission on July 31, 2001.² In this waiver request, Verizon Wireless seeks

¹ See Updated Phase II E911 Report and Request for Limited Waiver, filed on July 25, 2001 ("Verizon Waiver Request").

² See Public Notice, "WTB Seeks Comment on Wireless E911 Phase II Waiver Request Filed by Verizon Wireless," DA 01-1836, rel. July 31, 2001 ("Verizon Public Notice").

slight modification to the handset-based Phase II technology activation timeline as follows:

- Begin activation of location-enabled handsets by 12/31/01
- 25% of all activations be location-enabled by 7/31/02
- 50% of all activations be location-enabled by 3/31/03
- 100% of all activations be location-enabled by 12/31/03³

In addition, Verizon Wireless discussed the deployment schedule for network components for its assisted global positioning satellite (“A-GPS”)/ advanced forward link triangulation (“A-FLT”) location system, including availability of switch upgrades for Motorola switches.⁴ Finally, Verizon Wireless notes that it is investigating the possibility of implementing enhanced forward link triangulation (“E-FLT”) to enhance location service for legacy code division multiple access (“CDMA”) handsets. Implementation of E-FLT would be in addition to the A-GPS/A-FLT final solution and would potentially serve as an interim solution for legacy handsets.

Motorola, as a provider of both handset and infrastructure products to Verizon Wireless strongly supports its request for waiver. Motorola is committed to the timelines for activation of location-enabled handsets provided in the Verizon Wireless request and, with some minor modification, also supports the switch infrastructure implementation schedule specified with the Verizon Waiver Request.

³ The Commission’s rules require carriers who use handset-based location technology to (1) begin selling and activating location-capable handsets no later than October 1, 2001; (2) ensure that at least 25 percent of all new handsets activated are location-capable no later than December 31, 2001; (3) ensure that at least 50 percent of all new handsets activated are location-capable no later than June 30, 2002; and (4) ensure that 100 percent of all new digital handsets activated are location-capable no later than December 31, 2002. *See* 47 C.F.R. § 20.18(g).

⁴ *See* Verizon Waiver Request at 15.

II. MOTOROLA SUPPORTS THE HANDSET ACTIVATION MILESTONES SCHEDULE PROPOSED BY VERIZON WIRELESS

In its waiver filing, Verizon Wireless discussed the general availability periods for A-GPS/A-FLT capable handsets.⁵ Motorola limits its comments to the test schedule and general availability for handsets it manufactures. Consistent with comments Motorola has filed in the record,⁶ Motorola is committed to providing A-GPS/A-FLT enabled handsets for testing in the second quarter of 2002. Additionally, Motorola fully expects that these handsets will be generally available for sale in the third quarter of 2002.⁷

Motorola therefore believes, as it has continually informed the Commission, that its timeline for handset availability in commercial volumes is in the third quarter of 2002. Motorola urges the Commission to give due consideration to the realistic timelines for handset availability offered by Verizon Wireless and permit a minor relaxation of its rules to provide an achievable implementation schedule for A-GPS/A-FLT capable handsets.

III. MOTOROLA AGREES, WITH SOME MODIFICATION, TO THE SWITCH UPGRADE SCHEDULE PROPOSED BY VERIZON WIRELESS

In addition to deployment of enhanced handsets, an A-GPS/A-FLT location solution requires modification to the network components of the wireless carrier's underlying infrastructure. As noted by Verizon Wireless in its waiver,⁸ the key network component is the switch itself or Mobile Switching Center ("MSC"). Each MSC

⁵ See Verizon Waiver Request at 13.

⁶ See e.g., Comments of Motorola filed June 21, 2000 at 12.

⁷ Motorola will use QUALCOMM 5100 chipsets for its A-GPS/A-FLT handsets. It has not been Motorola's experience that these chipsets are commonly available to begin mass production (See Verizon waiver request at 9).

communicates with several Centralized Base Station Controllers (“CBSCs”) that handle the mobility aspects of a wireless call, such as handoffs between cell sites. Each of the CBSCs in turn connect with numerous Base Transmission Site (“BTS”) facilities that consist of the radio gear located at each individual base site. To enable A-GPS/A-FLT in a network, a Position Determining Entity (“PDE”) and Mobile Positioning Center (“MPC”) must be integrated with the MSC/CBSC/BTS infrastructure. The MPC connects directly with multiple MSCs to enable the MSC to determine the handset location. The PDE connects to the MPC, which provides a current “reference” of GPS signals.

With this understanding of the critical network components, Motorola notes that the timelines listed in the Verizon Waiver Request for Motorola’s infrastructure capabilities are slightly misstated. As noted by Verizon Wireless in footnote 13 of its waiver request, Motorola will have its MSC software available for carriers to conduct a first office application (“FOA”) in very early 2002.⁹ This switch software release (EMX S16.1) is truly the gating factor for the general availability of Motorola’s network components. The current cell site software, or the software that enables the CBSC and BTS to function properly, will be generally available prior to the general availability of the MSC switch software.¹⁰ Accordingly, Motorola fully expects to be able to deploy, with general availability, a complete release for Phase II A-GPS/A-FLT enabled network

⁸ See Verizon Waiver Request at 9.

⁹ Each carrier typically conducts its own FOA on its own network. This is because there are differences in the networks, even if carriers may use the same air interface. Motorola is currently working out its FOA schedule with Verizon.

¹⁰ The CBSC radio access network software releases are Motorola’s software release 15.0, which is generally available this month (August 2001) or CBSC software release 16.0 which will be ready for initial first office application in October 2001. Both of these radio access network software releases will support E911 Phase II with the addition of the S16.1 software on the MSC.

infrastructure in the Second Quarter of 2002. This is in advance of the timeline specified by Verizon Wireless.

Motorola notes that these general availability dates are based upon the use of an A-GPS solution interfacing with a SignalSoft MPC and SnapTrack PDE. As of this date, Verizon Wireless has not indicated to Motorola which vendor for its MPC and PDE equipment it will utilize. If the Lucent MPC/PDE solution is selected by Verizon Wireless, significant additional software development work will be required of Motorola to provide an infrastructure solution. Such additional development work will necessarily push first office application of Motorola's network components to the end of 2002 or early in year 2003.

IV. MOTOROLA WOULD SUPPORT E-FLT SHOULD VERIZON WIRELESS DEPLOY THIS TECHNOLOGY

Verizon Wireless indicates that it also is continuing to investigate the deployment of E-FLT as an interim solution to provide location capabilities to legacy handsets.¹¹ Motorola would fully support development of an E-FLT capability, but as noted in the Verizon Wireless waiver request, would not have such a solution prior to the end 2003. Motorola does not have an E-FLT infrastructure interim solution because the Commission determined that such a solution did not comply with its accuracy requirements. By tightening the accuracy requirements in the Third Report and Order, the Commission in effect limited technology choices to A-GPS or a network-based

¹¹ See Verizon Waiver Request at 28.

solution.¹² Moreover, Sprint PCS requested the use of E-FLT as part of its initial waiver request in 1999, but was firmly rejected by the Commission.¹³

In light of these proclamations by the Commission, Motorola felt its resources were best utilized developing those location solutions that fully complied with the Commission's accuracy requirements, and Motorola has not continued development efforts on E-FLT in the past two years. Therefore, Motorola would be required to develop both hardware and software to support E-FLT on its CDMA network infrastructure. At present, Verizon Wireless has not requested this support and Motorola has no plans to engage in development. If, in the future the FCC determines E-FLT location accuracy for legacy handsets is acceptable and Verizon Wireless requests that Motorola develop an E-FLT solution, it will take at least 18-24 months to develop tests and to integrate such a solution into Motorola's CDMA infrastructure product.

v. CONCLUSION

Motorola urges the Commission to grant the Verizon Request for Limited Waiver. It is clear that the underlying goals of the Commission's wireless E911 requirements would not be frustrated by the implementation schedule that has been carefully developed by Verizon Wireless. Motorola is committed to implementing the necessary products to support Verizon Wireless's A-GPS/A-FLT solution and believes that the timelines outlined are achievable. Motorola believes that an expeditious grant of this waiver will

¹² See *Revision of the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, *Third Report and Order*, 14 FCC Rcd. 17388 (1999), ¶¶ 72-74.

¹³ See *Revision of the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, *Fourth Memorandum Opinion and Order*, 15 FCC Rcd. 17442 (2000), ¶¶ 48-50.

enable the public to benefit in the most accurate, efficient manner possible and would clearly meet the stringent requirements established by the Commission for an E911 waiver.

Respectfully submitted,

Mary E. Brooner
Director, Telecommunications Strategy
& Regulation
MOTOROLA, INC.
1350 I Street, N.W.
Washington, D.C. 20005
202-371-6900